Interview Summary	Application No.	Applicant(s)	
	09/823,105	LUEH, GUEI-YUAN	
	Examiner	Art Unit	
	Mary J. Steelman	2191	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Mary J. Steelman*. (3)_____.

(2) *Thinh V. Nguyen, Reg. No. 42,034*. (4)_____.

Date of Interview: *13 April 2005*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1,16 and 31*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Examiner requested clarification of claim limitations. Suggested amendments were faxed to Applicant's Representative. Answers to questions and suggested amendments were returned via fax to Examiner. Faxed correspondence is attached .*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

09 / 823105 For static or semi-static compilation of instrumentation code:

Always generate instrumentation code (#510), and execute field watch sequence depending on field watch (#520)...

Or

Always generate instrumentation code (#510), which includes generating code to execute field watch sequence (#520) ? , provide a guard to
enable execution if the field watch is activated, or to disable execution if the field watch is not activated?

See [0047], "For the static model, the execution of the field watch sequence is performed whether or not the field watch is activated."
Do you mean the code to execute the field watch sequence is always generated? Not always executed?

Insert instrumentation code and guard code?

Claim 1:

An optimizing debug method with data access support comprising:

compiling a function including a byte code sequence having a field byte code that accesses or modifies a field,

the compiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to a field watch of the accessed or modified field

whereby arguments corresponding to the accessed or modified field are passed,

resulting in execution of an event hook function;

providing a guard to the instrumentation code, to enable execution if the field watch is activated,

or to disable execution of the instrumentation code if the field watch is not activated;

inserting the instrumentation code to the native code.

Dynamic recompilation: 09 / 822090

Generate instrumentation code, which includes generating code for executing a field watch sequence?
Not actually executing the field watch sequence?

Claim 1:

An optimizing debug method with data access support comprising:

re-compiling a function, using a fast code generator, when a field watch for a field is activated,

the function including a byte code sequence having a field byte code that accesses or modifies the field,

the recompiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to the field watch of the field;

said instrumentation code providing for execution of a field watch sequence,

whereby arguments corresponding to the accessed or modified field are passed;

resulting in execution of an event hook function.;

inserting the instrumentation code to the-native code.

Regarding 09 822090 Dynamic Recompilation:

Same limitations added to claim 1 should be added to all independent claims (Claim 1, 16, & 31)

Regarding 09823105

Same limitations added to claim 1 should be added to all independent claims (Claim 1, 16, & 31)

Claim language is unclear:

compiling a function...

generating an instrumentation code...

guarding execution of the instrumentation code if the field watch is not activated; and

inserting the instrumentation code to the native code.

Can this be changed to show that you are generating instrumentation code and generating (or providing or creating) a guard?

After the instrumentation code and the guard are generated, they are inserted into the native code?

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FACSIMILE TRANSMITTAL SHEET

Deliver To:	Examiner Mary J. Steelman (571) 272-3704		
Company:	U.S. Patent and Trademark Office		
Facsimile:	(571) 273-3704	Date:	April 13, 2005
From:	Thinh V. Nguyen	Operator:	Tu Nguyen
Our Reference No.:	42P11280 // 42P10798	Your Reference No.:	09/823,105 // 09/822,090
Number of Pages:	4 (Including Cover Sheet)		

Group 2191

Examiner Steelman,

Please see attached letter.

If you do not receive all the pages, or if there is any difficulty in receiving, please call (714) 557-3800 and ask for Tu Nguyen.

Dear Examiner Steelman,

Below are the answers to your questions and our revised claim amendments:

For 09/823,105: Static/ Semi-static compilation:

1) Yes, the invention generates instrumentation code (#510) which includes generating code to execute a field watch sequence (#520). It also provides guard to guard execution of instrumentation code if field watch is not activated. Note that guarding here means to protect or prevent. We do not want to use "enable" or "disable" which could mean something else. Furthermore, the guard is to guard execution if field watch is not activated. The focus is to make sure instrumentation code is guarded from execution if field watch is not activated. When field watch is activated, although instrumentation code may be executed, but we do not want to claim this.

Regarding [0047], the field watch sequence referred to includes the sequence to mimic stack operands. For the static model, this sequence is always executed. Please refer to lines 3-5 of Figure 7 and [0061]. For the semi-static model, the execution of this field watch sequence is performed when the field watch is activated. Please refer to lines 14, 24, 19, and 23 of Figure 8 and [0066].

The code to execute the field watch sequence is always generated, but its placement is such that it is always executed (for static model) or only executed when the field watch is activated (for semi static model).

2) Comments to your proposed amendments:

a) We prefer NOT to use preamble and the word "whereby".

b) As indicated above, the limitation "providing a guard to the instrumentation code, to enable execution if the field watch is activated, or to disable execution of the instrumentation code if the field watch is not activated" is not accurate. First, we do not want to use the word "enable/ disable" which may mean something differently and may not have support in the specification. Second, we just want to claim the portion "guarding execution of the instrumentation code if the field watch is not activated" and leaving out the condition "if the field watch is activated".

c) The passing of an argument is part of the execution of an event hook function. It is incorrect to recite "passing argument" and then follow by "execution of an event hook function"

We propose the following amendment:

1. (currently amended) A method comprising:

compiling a function including a byte code sequence having a field byte code that accesses or modifies a field, the compiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to a field watch of the accessed or modified field, the instrumentation code including code for executing an event hook function;

guarding execution of the instrumentation code if the field watch is not activated; and

inserting the instrumentation code to the native code.

8. (currently amended) The method of claim 2 wherein executing the field watch sequence comprises:

saving live global state, the live global state corresponding to an active register;

executing ~~an~~ the event hook function for an event corresponding to the field watch; and

restoring the live global state.

For 09/822,090: Dynamic recompilation.

The same comments for the static/ semi-static models apply.
The field watch sequence is not executed until the field watch is activated.
We propose the following amendments:

1. (currently amended) A method comprising:

re-compiling a function when a field watch for a field is activated, the function including a byte code sequence having a field byte code that accesses or modifies the field, the recompiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to the field watch of the field, the instrumentation code including code for executing an event hook function; and

inserting the instrumentation code to the native code.

4. (currently amended) The method of claim 3 wherein executing the field watch sequence comprises:

saving live global state, the live global state corresponding to an active register;

executing ~~an~~ the event hook function for an event corresponding to the field watch; and

restoring the live global state.

Please also make the following amendments to the specification:

change "filed" to "field" in [0039] (three places, lines 3, 5, and 6) and in [0071] (line 1).

Thank you for your prompt attention on this matter. If you have any questions, please do not hesitate to contact me.

Regards,

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Number of Pages:	2 (Including Cover Sheet)		

Group 2191

Examiner Steelman, .

Please let me know your decision before you leave.

Thank you.
Thinh V. Nguyen

If you do not receive all the pages, or if there is any difficulty in receiving, please call (714) 557-3800 and ask for Tu Nguyen.

Dear Examiner Steelman,

I reviewed the specification and could not find clear support for the language "generating a guard code to guard execution.." . Regarding the "instrumentation code including/comprising a guard code.." , this language is incorrect because the guarding is done outside the instrumentation code.

I believe that the amended claim language is clear enough. I hope the following explanation would help your Supervisor to understand the invention and the reason for the claim language to be written as it is.

"Guarding execution of the instrumentation code .." can be done by several methods:

In the first method, by comparing a flag with a watch value (See specification [0048]). In this method, it may be possible to think of "generating a guard code to guard execution.." and the "guard code" here most likely contains the "compare" (cmp) instruction (e.g., line 6 in Figure 7). However, there is no clear support in the specification to disclose the specific operation of generating such a guard code.

In the second method, guarding can be done by updating the offset of a jump instruction to a stub or replacing a No-op sequence with a jump instruction (See specification [0048]). In this method, "guarding" here is an action. This action is either updating the offset of a jump instruction or replacing a no-op with a jump instruction. Therefore, it is not appropriate to write it as "generating a guard code to guard.." because at least "updating the offset of a jump instruction" is not generating a guard code.

I believe that adding the limitation "generating a guard code" is unnecessary. Since a claim is interpreted consistent with the specification, the above support in the specification should provide clarity to the meaning of the claim. Even without the specification, the claim as it stands should be clear enough because there is no ambiguity regarding "guarding execution of the instrumentation.."

I hope the above explanation helps you and/or your supervisor to understand the invention and the claims. I have reviewed the claims carefully and believe that our proposed amendment would clarify the claim language and clearly distinguish from the prior art references. If the case is allowable, please proceed with Examiner's amendments for all the independent claims (1, 16, and 31) and the corresponding dependent claims and send out notices of allowability at your earliest convenience. If, however, you and/or supervisor do not agree, please re-open prosecution and issue an Office Action so that we can respond accordingly such as request for reinstatement of appeal and file a supplemental Appeal Brief.

Thank you very much for your time.

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